IN THE CLAIMS

1. (Currently Amended) Device comprising

a virtual display for displaying graphics, and

a diffractive grating element arranged to enlarge an exit pupil of said virtual display, said diffractive grating element in turn comprising a waveguiding substrate and a diffractive grating element arranged on or embedded within light- said substrate and arranged to interact with an incident light wave in order to couple energy from said incident light wave into said substrate to form at least one diffracted light wave propagating within said substrate in a direction of selected diffraction order, said grating element comprising at least two different grating regions having different diffractive properties and arranged on opposite sides with respect to a transition point, wherein diffractions generated by said at least two different grating regions are arranged to mutually compensate for an effect of a variation in input angle of said incident light wave at a given point of the grating on a total diffraction efficiency of said at least one diffracted light wave propagating within said substrate.

2. (Previously Presented) The device according to claim 1, wherein a grating profile of at least one of the grating regions has an asymmetric period profile, preferably a blazed period profile.

3. (Previously Presented) The device according to claim 1, wherein said regions are arranged to be symmetrically splitted, that is, the two different grating regions have grating period profiles arranged as substantially mirror images of each other with respect to a transition point.

4. (Previously Presented) The device according to claim 1, wherein said at least two different grating regions have grating period profiles with substantially different depths.

5. (Previously Presented) The device according to claim 1, wherein diffraction efficiency of at least one of the grating regions is arranged to vary at different local distances measured from the transition point.

6. (Currently Amended) The device according to claim 1, wherein the transition point is located within an area where the incident light wave first interacts with the ~~diffrative~~diffractive grating element.

7. (Previously Presented) The device according to claim 1, wherein a first interaction of the incident light wave with the diffractive grating element is arranged to take place substantially within a single grating region.

8. (Previously Presented) The device according to claim 7, wherein at least one of the grating regions is arranged to redirect or recirculate the light wave waveguided within the substrate back towards a reverse direction inside the substrate.

9. (Cancelled)

10. (Cancelled)

11. (Cancelled)

12. (Currently Amended) A device comprising
a waveguiding substrate;
an imager having a first location of an image point and a second location of an image point;
input optics to direct light from said first ~~image~~location point towards said substrate to form a first incident light wave and to direct light from said second ~~image point~~location towards said substrate to form a second incident light wave; and
a diffractive grating element arranged to couple energy of said first incident light wave into said substrate to form first diffracted light waves propagating within said substrate in a direction of a first selected diffraction order and to form second diffracted light waves propagating within said substrate in a direction of a second selected diffraction order, said diffractive grating element also being arranged to couple energy of said second incident light wave into said substrate to form first diffracted light waves propagating within said substrate in a direction of said first selected diffraction order and to form second diffracted light waves propagating

within said substrate in a direction of said second selected diffraction order, wherein said diffractive grating element comprises at least two different grating regions having different diffractive properties such that distribution of light between the direction of said first selected diffraction order and the direction of said second selected diffraction order is arranged to remain substantially the same when light is directed from said second ~~image point~~location instead of light being directed from said first ~~image point~~location.

13. (Currently Amended) The device according to claim 12 wherein said first ~~image point~~location is located in the center of a surface of said imager and said second ~~image point~~location is located near the edge of the surface of said imager.

14. (Previously Presented) The device according to claim 12 wherein said input optics is further arranged to shift said second incident light wave on said grating element with respect to said first incident light wave.

15. (Currently Amended) Apparatus comprising
waveguiding substrate means;
imager means having a first location of an image point and a second location of an image point;
input optics means to direct light from said first ~~image point~~location towards said substrate means to form a first incident light wave and to direct light from said ~~second image~~location point towards said substrate means to form a second incident light wave; and
a diffractive grating means arranged to couple energy of said first incident light wave into said substrate means to form first diffracted light waves propagating within said substrate means in a direction of a first selected diffraction order and to form second diffracted light waves propagating within said substrate means in a direction of a second selected diffraction order, said diffractive grating means also being arranged to couple energy of said second incident light wave into said substrate means to form first diffracted light waves propagating within said substrate

means in a direction of said first selected diffraction order and to form second diffracted light waves propagating within said substrate in a direction of said second selected diffraction order, wherein said diffractive grating means comprises at least two different grating regions having different diffractive properties such that distribution of light between the direction of said first selected diffraction order and the direction of said second selected diffraction order is arranged to remain substantially the same when light is directed from said second ~~image point~~location instead of light being directed from said first ~~image point~~location.